

REMARKS

This is responsive to the Office Action mailed May 15, 2008.

Telephone Conference

On June 3, 2008, the undersigned spoke with the Examiner by telephone. We discussed the primary issue, i.e., the Examiner's allegation that it would have been obvious to replace the threaded rod in Onofrio, U.S. Patent No. 5,702,218, with the flexible cable in Temple, U.S. Patent No. 3,332,118.

Specifically, the undersigned pointed out the following: Onofrio is a moly-bolt, i.e., a threaded rod with a toggle mechanism attached to one end of the threaded rod. Onofrio explains that in prior art moly bolts, a nut is threaded onto the bolt, and the nut is turned to tighten the bolt. The invention in Onofrio was to replace the nut with a spring, and to thread the toggle (18) on the bolt 12. Thus, to tighten the bolt, the bolt is turned, advancing the bolt relative to the toggle.

With this background in mind, the undersigned questioned the motivation to replace the threaded rod, which is central to the objective in Onofrio to provide for tightening the device, with a flexible cable that would not provide this functionality.

Claim Amendments

Independent claim 34 has been amended to include additional elements and additional specificity has been provided regarding the claimed hole plug. The comments below, however, are intended to apply to claim 34 as previously recited.

Response to Current Section 103 Rejections

The stated rationales for modifying Onofrio to replace the threaded rod with a flexible cable are: (1) “to . . . provide a simple way to operate the toggle bar, and (2) “to provide a mechanism that will be simple in construction and in operation . . .” It is respectfully submitted that neither of these rationales is applicable to the present case.

Rationale (1) is not applicable because the “toggle bar” in Onofrio is “spring-loaded,” and is deployed (“operated”) automatically, simply by clearing the hole through which it is inserted. This deployment has nothing to do with the threaded rod, and so replacing the threaded rod with a flexible cable would have no effect on the operation of the toggle.

In regard to rationale (2), Applicant assumes the Examiner is alleging that the device as modified would be “simpler” (not merely “simple,” a relative term which has no objective basis and which therefore cannot be proved one way or the other). This rationale is not applicable because Onofrio utilizes the threaded rod for one purpose: to tighten the device; the device is tightened by turning the threaded rod, which advances the threaded rod through corresponding threads in the toggle. Given that aim, it would be undesirable to replace the threaded rod in Onofrio with a flexible cable for two reasons.

First, the tightening force applied to the rod in Onofrio is a torsional force, so the member that is utilized for tightening should be “good” at transmitting torsional forces. It is well known that a flexible cable is inherently less effective to transmit (or support) torsional forces than a solid rod of the same size and weight, and there is no advantage to increasing the size and weight of the tightening mechanism in the absence of obtaining additional rigidity.

Even more fundamentally, a flexible cable cannot be threaded; therefore, some additional tightening mechanism or means would need to be provided to render the device consistent with the teachings of Onofrio. If something has to be added, the device will be more complicated, not simpler.

Additional Comments

Applicant’s device utilizes a flexible cable because it has a purpose different from Onofrio, i.e., Applicant’s device is intended to be used for fall protection. While it is understood that intended use is not a claim limitation, intended use is important to the motivation to make modifications to the prior art.

Applicant’s invention utilizes a flexible cable because it is intended for use as fall protection. A flexible cable is provided in fall protection because, being flexible, the cable will tend to bend rather than shear off in response to pulling forces that could be applied from any direction as the worker who is tethered to the device moves about. A moly bolt is not generally subjected to large forces, and the forces are always applied in a known direction by a stationary object (such as a picture that is being hung to a wall).

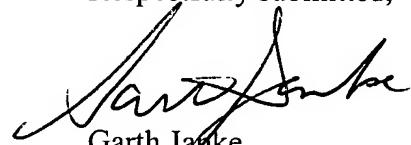
A flexible cable is also relatively incapable of transmitting a shear force to the hole. If a person were tethered to a moly bolt such as Onofrio, suitably sized to support a load applied from all possible directions, the bolt would transmit significant shear force to the hole. If the hole is in concrete, which is notoriously weak in shear, the hole may very well "blow out," killing the worker.

Also because it is used for fall protection, Applicant's invention provides a hole plug. One advantage of the hole plug is to facilitate bending of the cable, so that it does not bend too sharply and so that it does not come into contact with rough edges of the hole that could cut or damage the cable. There was no motivation to provide such functionality in a moly bolt. Indeed, the frustoconical washer of Onofrio is incapable of providing either function, because of its shape, and because it does not engage the hole—it merely seats on the hole.

Amendment to Claim 34

Claim 34 has been amended to include additional limitations that further distinguish over Onofrio and Temple. In particular, the hole plug is recited more specifically, and a toggle bar pivot control member and plug biasing spring are added.

Respectfully submitted,



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